



Dry Cleaning ATCM Amendments

Workshop

November 29, 2005

California Environmental Protection Agency

Air Resources Board



Agenda

- Dry Cleaning ATCM History and Requirements
- Dry Cleaning ATCM Evaluation and Results
- Regulatory Concepts
- Questions/Discussion



Dry Cleaning ATCM History

- October 1991 Perchloroethylene (Perc) was identified as a toxic air contaminant
- October 1993 Airborne Toxic Control Measure for Emissions of Perchloroethylene from Dry Cleaning Operations (The Dry Cleaning ATCM) and Environmental Training Program for Perchloroethylene Dry Cleaning Operations (The Environmental Training Regulation) were adopted
- June 1994 The Dry Cleaning ATCM and the Environmental Training Regulation became State law
- October 1994 Effective date of the Dry Cleaning regulations

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Dry Cleaning ATCM Requirements

- **Equipment**
 - New transfer and vented machines were prohibited
 - Existing transfer machines were phased out by October 1, 1998
 - Existing vented machines were either
 - a) converted by April 1, 1996, or
 - b) removed by October 1, 1998
 - Required primary control on existing facilities
 - Required primary and secondary controls on new facilities

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Dry Cleaning ATCM Requirements

- **Recordkeeping and Reporting**
 - Log of pounds of material cleaned per load,
 - Purchase and delivery receipts for Perc or records of date and amount of Perc added to solvent tank of machine,
 - Completed leak inspection checklists,
 - Record of repair of leaking components
 - Manufacturer's operating manual
 - Original certificate of completion for each trained operator
 - Maintain an annual report

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Dry Cleaning ATCM Requirements

- **Good Operating Practices**
 - *Operation and Maintenance*
 - a) Refrigerated condensers
 - b) Cartridge filters and adsorptive cartridge filters
 - c) Still and any muck cooker
 - d) Button and lint traps
 - e) All access doors, lids, or parts of the dry cleaning system where there is Perc
 - f) Waste water evaporators

For operations not specifically addressed, the components shall be operated and maintained in accordance with the manufacturer's recommendations.

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Dry Cleaning ATCM Requirements

- **Good Operating Practices**
 - *Leak Check and Repair*
 - a) Inspect at least once per week
 - b) Use a halogenated-hydrocarbon detector, a portable gas analyzer, or district approved method
 - c) Note leak on check list and physically mark or tag leaking component
 - d) Repair leaks promptly
 - *Environmental Training*
 - a) The facility shall have one or more full-time employees who are trained operators

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Environmental Training Regulation Requirements

- ARB approved instructors
- ARB approved curriculum
 - Training objectives
- Class Size
- Course manual and records of completion (training certificate)
- Submittal of information to ARB within 10 working days after course presentation.

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Evaluation Process

- **Scope of the Evaluation Process**
 - Workgroup formation and meetings
 - Surveys of the dry cleaning industry (Dry Cleaning Facilities Survey, Machine Manufacturers Survey, Perc Solvent Distributors Survey, and Dry Cleaning Solvent Manufacturers)
 - Dry cleaning facility site visits
 - Limited sludge testing from Perc and DF-2000™ Fluid facilities
 - Limited testing on Perc detectors
 - Contracted with IRTA for evaluation of alternatives
 - Reviewed work of South Coast AQMD, Bay Area AQMD, and other parties.

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Evaluation Results

- **Emission Control Technologies**
 - Primary Controls
 - Secondary Controls
 - Inductive Door Fans

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Evaluation Results

- **Ventilation Types**
 - Natural Ventilation
 - Window Fans
 - General Ventilation
 - Local Ventilation
 - Partial Vapor Barrier Rooms
 - Vapor Barrier Rooms

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Evaluation Results

- Dry cleaners are typically small businesses.
 - Most employ less than five employees.
 - Greater than 50% employ two or less full time employees.
- Over 95% of the facilities operate a single dry cleaning machine.
- Dry cleaners are typically located in shopping centers
- About 2 percent are co-residential facilities.

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Evaluation Results

Statewide Estimates	1992 Survey	2003 Survey
Number of Perc dry cleaning machines ¹	5310	4670
Pounds of materials dry cleaned annually ²	258 million	256 million
Pounds of materials dry cleaned using Perc annually ²	247 million	214 million
Gallons of Perc used ³	1,100,000	378,000
Gallons of Perc emitted ³	742,000	222,000

1. Values are rounded off to the nearest ten.
2. Values are rounded off to the nearest million.
3. Values are rounded off to the nearest thousand.

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Evaluation Results

Statewide Estimates	Number ²	Percent (%) ³
Dry cleaning facilities	5040	n/a
Perc dry cleaning facilities	4290	85
Mixed facilities (Perc + Alternative)	190	4
Non-Perc facilities	550	11
DF-2000™ Fluid	400	8
GreenEarth®	90	2
Others (professional wet cleaning, Green Jet®, PureDry®, Rynex™, Stoddard, and other high flash point hydrocarbon solvents)	60	1

1. Source: 2003 survey.
2. Values are rounded to the nearest 10.
3. Values are rounded to the nearest integer.

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Evaluation Results

- Current alternatives to Perc Dry Cleaning include:
 - Hydrocarbon solvent cleaning
(DF-2000™ Fluid, EcoSolv® Dry Cleaning Fluid, PureDry®, Shell Sol 140 HT, Stoddard Solvent)
 - GreenEarth®
 - Rynex™
 - Water based cleaning systems
(Professional wet cleaning and Green Jet®)
 - Carbon Dioxide Cleaning

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Evaluation Results

- Alternatives to Perc dry cleaning are available and viable
- Preliminary Health Risk Assessment indicates that potential cancer risk is a concern
- Amendments to the ATCM needs to be considered

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Dry Cleaning ATCM Amendments

- **Considering two possible options:**
 - 1) Transition to Non-Perc alternatives
 - Eliminates a large source of Perc in California
 - Issues with alternatives include:
VOC, health impacts, market acceptance, and cost
 - Issues are significant barriers

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Dry Cleaning ATCM Amendments

- **Possible options (continued):**
 - 2) Strengthen existing ATCM
 - Phase out primary-controlled machines
 - Prohibit use of converted machines
 - No Perc machine operation in new facilities that are co-located with a residence
 - Existing co-located facilities operate with vapor barrier room and secondary control machine(s)
 - Siting criteria (TBD):
 - a) New Facilities
 - b) Existing Facilities

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Dry Cleaning ATCM Amendments

- **ATCM Amendment Process**

- The California Dry Cleaning Industry Technical Assessment Report, detailing the finding of the dry cleaning ATCM evaluation, was made available for an informal 30-day public comment period that ended on November 23, 2005
- The Dry Cleaning Workgroup, which assisted during the evaluation, will assist during the rulemaking process
- Draft regulatory language will be presented at future public workshop(s)

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Dry Cleaning ATCM Amendments

- **ATCM Amendment Process**

- Next public workshop will be held early February 2006
- Staff report and the proposed amendments will be available for a 45 day formal public review early April 2006 (tentative)
- Board hearing to officially adopt amendments to the Dry Cleaning ATCM, mid 2006 (tentative)
- Board hearing to officially adopt amendments to the Environmental Training Regulation, late 2006 (tentative)

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